

### Abstract

The present invention prevents the occurrence of damage on a small diameter portion 4a which is formed on a rear end portion of a ceramic heater fixed in a metallic outer sleeve 8. The ceramic heater 4 is fixed in the metallic outer sleeve 8 by blazing or the like in a state that a heat generating portion formed on a distal end thereof is exposed to the outside. The rear end portion of the ceramic heater 4 is positioned inside the metallic outer sleeve 8, and the small diameter portion 4b is formed on the rear end. The rear-end small diameter portion 4b of the ceramic heater 4 is connected to an electrode lead-out member (electrode lead-out wire 10) for taking out a positive electrode of a heat generating material. Granulated powder (alumina, for example) 18 made of inorganic insulating material is filled in around a connecting portion of the ceramic heater 4 in the metallic outer tube 8 and the electrode lead-out-wire 10, and in addition, magnesia 20 is sealed outside the granulated powder. Thereafter, swaging is performed to bring the magnesia 20 into a highly dense state thus fixing the electrode lead-out wire 10 and an electrode lead-out rod 12 in the metallic outer sleeve 8.